CLAIMS

An imidazole alkylphosphonate of the general formula
 (I):

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wherein;

R¹ is an amino-protecting group;

 R^2 and R^3 are the same or different and are each a hydrogen atom, a lower alkyl group, or a hydroxy-(lower alkyl) group;

 R^4 is a lower alkyl group, a halogenated lower alkyl group, or a substituted or unsubstituted phenyl group; and

A is an optionally substituted straight chain alkylene group having 1 - 3 carbon atoms.

2. A method for the preparation of an imidazole alkylphosphonate of the general formula (I) in claim 1, characterized by reacting a phosphonate derivative of the general formula (II):

$$(R^4O)_2P$$
—H (II)

wherein R^4 is as defined in claim 1, with an imidazole derivative of the general formula (III):

$$R^2$$
 $A \longrightarrow X$
 $R^1 \longrightarrow N$
 R^3
(III)

wherein;

5 X is a halogen atom, a methanesulfonyloxy group, or a p-toluenesulfonyloxy group; and

 ${\mbox{R}}^1, \ {\mbox{R}}^2, \ {\mbox{R}}^3, \ {\mbox{and}} \ {\mbox{A}} \ {\mbox{are as defined in claim 1,}}$ in the presence of a base.

3. A method for the preparation of an imidazole derivative of the general formula (VI):

$$R^{2} (CH_{2})_{m} - CH_{2} - (CH_{2})_{n} - NR^{6}$$

$$HN N R^{3}$$
(VI)

wherein;

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 R^2 and R^3 are as defined in claim 1;

m is an integer of 1 - 3;

n is an integer of 0 - 3; and

 ${
m R}^6$ is a hydrogen atom or a lower alkyl group, characterized by reacting an imidazole alkylphosphonate of the general formula (I'):

$$\begin{array}{c|c}
R^2 & (CH_2)_m & P(OR^4)_2 \\
\hline
R^1 & N & (I')
\end{array}$$

wherein;

 R^1 , R^2 , R^3 , and R^4 are as defined in claim 1; and m is as defined above,

5 with a piperidine compound of the general formula (IV):

$$R^{5}-N \longrightarrow (CH_{2})_{n} \longrightarrow C$$

$$H \qquad (IV)$$

wherein;

 ${\ensuremath{\mathsf{R}}}^{5}$ is an amino-protecting group or a lower alkyl group; and

n is as defined above, to give a compound of the formula (V):

$$R^{2}$$
 $(CH_{2})_{m-1}CH=CH-(CH_{2})_{n}$ $N-R^{5}$ (V)

wherein;

 R^1 , R^2 , and R^3 are as defined in claim 1; and m, R^5 , and n are as defined above, and then reducing said compound.

4. A method for the preparation of an imidazole derivative of the general formula (IX):

wherein;

 R^2 and R^3 are as defined in claim 1;

m is an integer of 1 - 3;

 ${
m R}^6$ is a hydrogen atom or a lower alkyl group, characterized by reacting an imidazole alkylphosphonate of the general formula (I'):

$$\begin{array}{c|c}
R^2 & (CH_2)_m & P(OR^4)_2 \\
\hline
R^1 & N & (I')
\end{array}$$

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wherein;

 R^1 , R^2 , R^3 , and R^4 are as defined in claim 1; and m is as defined above,

with a piperidone compound of the general formula (VII):

$$R^5-N$$
 $=0$ (VII)

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wherein R⁵ is an amino-protecting group or a lower alkyl

group,

to give a compound of the formula (VIII):

$$R^{2} (CH_{2})_{m-1}CH = N-R^{5}$$

$$R^{1} N$$

$$R^{3} (VIII)$$

wherein;

 R^1 , R^2 , and R^3 are as defined in claim 1; and R^5 are as defined above, and then reducing said compound.